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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,194

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Mutsumi Sugawara

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EXAMINER

MARTINEZ, BRITTANY M

ART UNIT

PAPER NUMBER

1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,194	Applicant(s) SUGAWARA ET AL.	
	Examiner BRITTANY M. MARTINEZ	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/14/2006, 10/17/2006, and 1/3/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Foreign patent literature will be in the format (Inventor, P) where P denotes the paragraph number.

Status of Application

Claims 1-2 have been examined.

Priority

The instant application is a national stage entry of PCT/JP04/19132, filed 12/15/2004.

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. 119(a)-(d) or (f) for Japanese Application No. 2003-417611, filed 12/16/2003. Receipt is acknowledged of copies of the certified copies of priority documents received in this National Stage application from the International Bureau (PCT Rule 17.2(a)), which copies have been placed of record in the file.

1. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).

1. Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. **Claims 1-2** are rejected under 35 U.S.C. 102(a) as being anticipated by Osawa (JP 2004018500 A).

4. With regard to **Claim 1**, Osawa discloses a method for producing chlorosulfonyl isocyanate by reaction of sulfur trioxide with cyanogen chloride, wherein chlorosulfonyl isocyanate or a solution including chlorosulfonyl isocyanate is used as a reaction solvent; and sulfur trioxide and cyanogen chloride which are respectively diluted with the chlorosulfonyl isocyanate or the solution including chlorosulfonyl isocyanate are added at the same time to a reaction system in an almost equimolar amount under reflux (Osawa, "Abstract"), substantially as in the instant.

5. With regard to **Claim 2**, Osawa discloses a method for producing chlorosulfonyl isocyanate, wherein a reflux temperature is from 50 to 110°C (Osawa, "Abstract"), substantially as in the instant.

6. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. **Claims 1-2** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuck et al. (CH 680292 A) (the English translation supplied by the examiner will be used for citation purposes) in view of Nakamura (JP 2003040854 A).

11. With regard to **Claim 1**, Chuck discloses a method for producing chlorosulfonyl isocyanate by reaction of sulfur trioxide with cyanogen chloride, wherein chlorosulfonyl isocyanate or a solution including chlorosulfonyl isocyanate is used as a reaction solvent; and sulfur trioxide and cyanogen chloride are added at the same time to a reaction system in an almost equimolar amount under reflux (Chuck, p. 1, paragraph 1; p. 2, paragraph 2; p. 3-4, "Example"), substantially as in the instant.

12. With regard to **Claim 2**, Chuck discloses a method for producing chlorosulfonyl isocyanate, wherein a reflux temperature is from 30 to 160°C (Chuck, p. 1, paragraph 1; p. 2, paragraph 2; p. 3-4, "Example").

13. Chuck does not specifically disclose sulfur trioxide and cyanogen chloride respectively diluted with the chlorosulfonyl isocyanate or the solution including chlorosulfonyl isocyanate (**Claim 1**) or a reflux temperature from 50 to 110°C (**Claim 2**).

14. With regard to **Claim 1**, Nakamura teaches that the presence of chlorosulfonyl isocyanate in the reaction mixture enhances chlorosulfonyl isocyanate selectivity (Nakamura, 0011). One of ordinary skill in the art would recognize that adding chlorosulfonyl isocyanate along with each reactant or separately would be an experimental design choice. Thus, it would have been obvious to one of ordinary skill in the art to modify the process taught by Chuck with the chlorosulfonyl isocyanate presence in the reactant feeds of Nakamura in order to obtain a chlorosulfonyl isocyanate production process with optimal selectivity.

15. With regard to **Claim 2**, Nakamura teaches that reflux temperature may be adjusted in order to minimize by-product production (Nakamura, 0011). Nakamura

further discloses that low reflux temperatures are unfavorable because of economic constraints and a resulting low-quality chlorosulfonyl isocyanate product, while high reflux temperatures are unfavorable because of production of superfluous by-products and thus, a lower quality chlorosulfonyl isocyanate product (Nakamura, 0002). Thus, it would have been obvious to one of ordinary skill in the art to modify the process taught by Chuck with a reflux temperature range reflective of the teachings of Nakamura in order to obtain a chlorosulfonyl isocyanate production process with optimal economic efficiency and chlorosulfonyl isocyanate selectivity.

Conclusion

1. No claim is allowed.
2. In general, prior art renders the claimed invention anticipated and obvious.
3. Applicant is required to provide pinpoint citation to the specification (i.e. page and paragraph number) to support any amendments to the claims in all subsequent communication with the examiner. **No new matter will be allowed.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRITTANY M. MARTINEZ whose telephone number is (571) 270-3586. The examiner can normally be reached Monday-Thursday 7:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached at (571) 272-1358. The fax phone

Art Unit: 1793

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wayne Langel/
Primary Examiner, Art Unit 1793

BMM
/Brittany M Martinez/
Examiner, Art Unit 1793